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RHMFISS/HQ USSOCOM MACDILL AFB FL PRIORITY
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C O N F I D E N T I A L SECTION 01 OF 04 NEW DELHI 003136

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JOINT STAFF PLEASE PASS TO OSD AT&L

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TAGS: BEXP MCAP MASS TSPL PTER TPHY TNGD TSPL IN
SUBJECT: DRDO CONVENES INTERNATIONAL CONFERENCE ON MANAGING DEFENSE R&D

NEW DELHI 00003136 001.2 OF 004

Classified By: Science Counselor Satish Kulkarni for Reasons 1.4 (B and D)

¶1. SUMMARY: (C) The Defense Research and Development Organization (DRDO) sponsored their first ever international conference on managing defense research and development December 3-5, in honor of their 50th anniversary. The conference was organized jointly by DRDO and the Federation of Indian Chambers of Commerce and Industry (FICCI), and attended by GOI officials, industry officers, Indian university representatives, and delegates from at least 13 countries. Key themes that emerged from the conference were India's need to encourage self-sufficiency in defense R&D and production by integrating better with civilian organizations, change focus to face new asymmetric threats, and concentrate on solving issues of personnel inexperience and turnover. END SUMMARY.

SIGNIFICANT POTENTIAL FOR DRDO/INDUSTRY COLLABORATION, BUT MOVING SLOWLY

¶2. (C) Minister of State for Defense Production Mr. Rao Inderjit Singh, Secretary General of FICCI Dr. Amit Mitra, Secretary of Defense Production Mr. Pradeep Kumar, and others at the conference called for increased Indian self-reliance, noting that between 60 and 75 percent of India's defense acquisitions currently come from abroad. Mr. Atul Kirloskar, head of Confederation of Indian Industries Defense Committee, and several other industrial, academic and defense participants noted that research in the private sector was far outpacing DRDO, and that DRDO could not effectively keep up with the demand for defense capabilities. Mr. Singh said he was frustrated by technology transfer and import restrictions on the best defense technologies, and that India needed to find a way around them. All parties acknowledged that moving forward was only possible with a strong defense

and industry partnership but seemed to disagree on how such a partnership should be implemented.

¶3. (C) The defense sector opened to commercial participants in 2001 and according to Mr. Kumar has been very slow to evolve. From several conference presentations and sidebar conversations, it was clear that industry sees greater opportunity for investment in India's defense market but is hesitant over concerns about DRDO's way of doing business. Mr. Kirloskar emphasized the need for a formal framework for interactions to prevent some of the DRDO practices that discourage industry participation - for example, taking a developed project away from a commercial company and giving it to a defense company for production, thereby cutting the commercial partner out of significant potential profit. Chairman and Managing Director of Bharat Electronics Ltd Mr. ¶V. V. R. Sastry also described a Ministry of Defense evaluation process harsher for Indian products than for imported ones. Industry suggestions for they way forward focused on joint ventures and majority government funding of research that would result in the Ministry of Defense (MOD) owning the IPR while the commercial entity develops and produces the technology. Despite declared industry misgivings, a 383 page guide on major DRDO industry partners and their defense contributions released at the conference by DRDO and FICCI clearly shows Indian commercial entities have played a role in defense R&D over the past several years.

¶4. (C) DRDO, on the other hand, is concerned about whether industry is willing and able to meet defense needs, especially when they are not commercially profitable. Mr. M. Natarajan, Science Adviser to the Defense Minister, highlighted his concerns about continuity of supply and

supply chains, the ability of industry to provide product support in spite of fluctuating order levels, and whether industry would protect defense intellectual property. Avnish Chander, director of the DRDO Advanced Systems Laboratory in Hyderabad, pointed to cultural differences as a major issue in DRDO/industry relations - specifically that the industry didn't meet DRDO's requirements for quality, and that DRDO didn't meet industry requirements to hold down costs. In a perfect world, Mr. Singh and others said they would like to see competition between private companies to develop and market defense technology, giving the MOD multiple technology and vendor choices. Even one of the industrial speakers, Mr. Sastry, lamented the lack of multiple vendors and competition for critical subsystems. Several DRDO representatives expressed a desire to leave most of the defense R&D to the commercial and academic realms and refocus DRDO narrowly on future technologies of the greatest importance to defense.

¶5. (C) At the concluding session, Dr. Suman Bery, Director General of the National Council of Applied Economic Research (NCAER), presented Mr. Singh with the results of a study on the economic impact of DRDO expenditures over the last 15 years. The study, which was not provided to conference participants and may eventually be released at the discretion of DRDO, found that DRDO provided positive benefits to the Indian economy and influenced academics, infrastructure and strategic security. (NOTE: SCIOFF observed several discussions - official and sidebar - about the relevance of DRDO and its ability to deliver. The public unveiling of this study, along with the DRDO-industry partner guide and even the conference itself may be an effort by DRDO to re-assert or perhaps redefine its relevance in light of the changing R&D environment in India. END NOTE.)

FUTURE RESEARCH EMPASIS ON ASYMETRIC THREATS

¶6. (C) While not discounting the importance of conventional military superiority, multiple speakers, including Mr. Natarajan, Mr. Singh, and Chief of Integrated Defense Staff Air Marshal S.C. Mukul, expressed their belief that future research would be driven by the threats of international

terrorism, organized crime, and the proliferation of weapons of mass destruction. Mr. Natarajan pointed out that these were problems not only for the MOD, but also for homeland security and the scientific community. To prevent conflicts and manage crises Dr. Kota Harinarayana, a Raja Ramanna Fellow at the National Aerospace Laboratories, stressed the need for more effective integration of political, military and intelligence sectors while Indian military participants spoke about the importance of jointness and interoperability. To encourage a strategic defensive approach, the GOI just approved the acquisition of land in the national capital region for a Strategic Defense University, according to Mr. Singh.

¶7. (C) To meet these asymmetric threats, speakers provided their views on where India's future R&D should be focused.

-- According to Mr. Singh, future research would focus on propulsion and sensors. He highlighted in both the opening and closing sessions that India was not looking to expand its territory and thus should focus on defensive technologies. He also noted that India should reexamine its policy of not exporting military equipment or materials to areas with conflicts in order to allow the defense sector more leeway for profitable export activities.

-- Dr. V. K. Saraswat, DRDO Chief Controller for R&D, said the thrust areas for Indian R&D would be surveillance,

precision attack, anti-submarine, information assurance, kinetic energy weapons, nanotechnology, and virtual systems. Dr. Saraswat also indicated that India's technology strategy needed to focus on human systems, combat systems, and sensors and information.

-- Air Marshall Mukul indicated that an overarching strategy to translate technology into a decisive war capability was vital. His areas for future focus were information superiority, electronic warfare, area missile defense, combat identification technology, urban operations, combating terrorism, nuclear, chemical and biological, and logistics.

¶8. (C) Some of the industry presenters spoke briefly about going "green" for future defense technology R&D during their presentations. Dr. Arun Jaura, Group Chief Technology Officer for Mahindra, focused specifically on hybrid propulsion technology. However DRDO representatives were dismissive and did not seem to see MOD use of hybrid, renewable, or other alternative technologies as a likely in the near future given their unproven reliability and high development and manufacture costs.

HUMAN CAPITAL SHORTAGES HAMPER EFFORTS

¶9. (C) One of the eight conference sessions was devoted specifically to examining human resources issues for defense R&D. Several speakers mentioned the lack of skilled personnel and competition between various government and private sectors for those personnel as a significant issue. Mr. Singh and the HR panel members stressed the need to address the attrition issue, noting that DRDO has difficultly attracting and retaining scientists since even eminently qualified scientists can find more lucrative work as investment bankers. Mr. V.R.S. Natarajan, Chairman and managing Director of BEML Ltd, claimed that many of DRDO's engineers were leaving, and that DRDO was looking for a manageable attrition rate of 5-10 percent. Mr. S.V. Ranganath, Member (Finance) of the Space Commission, Atomic Energy Commission and Earth Commission, highlighted that most of the scientists at DRDO are from the 1960's and 70's and have "hands-on" experience, while those who will succeed them come from the 80's generation of computers and internet. He stressed the need to ensure knowledge was passed to the new generation through mentoring. To retain new workers, Mr. Ranganath hailed the importance of internal recognition,

since most of the work could not be published or lauded by the international scientific community. (NOTE: SCIOFF estimated that about 75 percent of the DRDO conference attendees were close to the mandatory retirement age, and in conversations with several participants learned that there would be a significant wave of retirements in the next three to five years. This generation shift is likely to create significant logistical, personnel and knowledge management issues for DRDO, but at the same time create an opportunity for changes that seem to be unobtainable by, or at least unpalatable to, current leadership. The next couple years should prove an opportune time to influence India's defense R&D future. END NOTE)

INTERNATIONAL PANELISTS PROVIDE DEFENSE/INDUSTRY MODELS FOR DRDO

¶11. (C) Panelists from Canada, France, Germany, Israel, Malaysia, Russia, Singapore, South Africa, South Korea, the U.K., and the U.S. spoke on management of the relationship between industry and the defense sector in their home countries. The conference schedule permitted SCIOFF to see only a few of the presentations, which were for the most part

focused on how to deal with cuts in funding and resources, and how to manage a commercial defense sector that sells both domestically and internationally. Mr. Singh thanked the international delegates for providing their perspectives; however it was unclear how much of the presentations the MOD and DRDO really absorbed.

COMMENT

¶12. (C) Much of the event seemed to be an opportunity for DRDO to highlight its accomplishments over the last 50 years, even as an undercurrent of insecurity about the organization's future relevance ran though the conference. India's MOD is clearly interested in moving towards an indigenous defense capability, for financial and national security reasons, but is going to have a difficult time achieving that in the next five to ten years. Changes in the basic defense R&D and production systems and significant focus on human resources will be required for India to begin expanding MOD-industry relationships and cutting down reliance on imports. END COMMENT.
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